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Indian Standard
SPECIFICATION FOR
BOTTOM SHAFT FOR COTTON LOOMS
(*First Revision*)

UDC 677-054.7:677-21



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002



Gr. 2

April 1979

Indian Standard

SPECIFICATION FOR BOTTOM SHAFT FOR COTTON LOOMS

(*First Revision*)

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Indian Standard
SPECIFICATION FOR
BOTTOM SHAFT FOR COTTON LOOMS
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 10 August 1978, after the draft finalized by the Cotton Weaving Machinery Components Sectional Committee had been approved by the Textile Division Council.

0.2 This standard was first published in 1963. This revision has been taken up in the light of experience gained by manufacturers and consumers, and is based on the manufacturing practices followed in the country in this field.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements for bottom shaft for plain and automatic cotton looms.

2. TERMINOLOGY

2.1 For the purpose of this standard **Reed Space (of the Loom)** shall mean maximum space available on the loom for the insertion of a reed, that is, the overall width of a reed which can be fixed on the loom.

3. MANUFACTURE

3.1 Material — Bottom shaft shall be manufactured from bright bar conforming to IS:7271-1974†.

*Rules for rounding off numerical values (*revised*).

†Specification for bright bars (*ordinary/commercial quality*).

3.2 Workmanship and Finish — The shaft shall be straight and free from rust. The diameter of the shaft should be uniform throughout without any hammer marks. Both ends of the shaft shall be chamfered.

3.3 Shape — The shaft shall generally be as shown in Fig. 1.

NOTE — Extra machining, such as keyways and step diameters shall be done according to special design requirements.

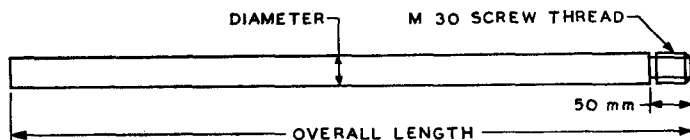


FIG. 1 BOTTOM SHAFT

4. REQUIREMENTS

4.1 Dimensions — The length of bottom shaft shall be within coarse class deviations for linear dimensions specified in IS:2102-1969* and reproduced in Appendix A for ready reference. The diameter of the shaft shall have a fit of H 8 according to IS:919-1963†.

4.2 True Running — The bottom shaft shall run true. However, when tested by the method given in Appendix B the out-of-true running, if present, shall not exceed 0.025 mm.

4.3 Screw Threads — Bottom shaft shall preferably be provided with screw threads of designation M 30-8 g [see IS:4218 (Part VI)-1978‡] at one of its ends over a length of 50 mm (see Fig. 1).

5. MARKING

5.1 Each bottom shaft shall be marked, at a suitable place, with the reed space of the loom on which it is to be used.

5.1.1 Each bottom shaft may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

* Allowable deviations for dimensions without specified tolerances (first revision).

† Recommendations for limits and fits for engineering (revised).

‡ ISO metric screw threads: Part VI Limits of sizes for commercial bolts and nuts (diameter range 1 to 52 mm) (first revision).

6. PACKING

6.1 The bottom shafts shall be coated lightly with anti-rust agent and shall be packed in a wooden case provided with supports so that they do not touch each other. The wooden case shall be strong enough to withstand the hazards of transit.

6.2 Each case shall be marked with the following information:

- a) Manufacturer's name, initials or trade-mark, if any;
- b) Reed space of the loom on which the bottom shafts are to be used;
and
- c) Number of bottom shafts in the case.

APPENDIX A

(Clause 4.1)

LENGTH OF BOTTOM SHAFT

(Extract from IS:2102-1969)

<i>Range of Nominal Dimensions</i>				<i>Tolerance</i>
mm				mm
Above	3 up to and including	6		± 0.2
„	6	„	30	± 0.5
„	30	„	120	± 0.8
„	120	„	315	± 1.2
„	315	„	1 000	± 2
„	1 000	„	2 000	± 3
„	2 000	„	4 000	± 4
„	4 000	„	8 000	± 5

APPENDIX B

(Clause 4.2)

METHOD FOR CHECKING TRUE RUNNING

B-1. A surface plate, two 'V' blocks and a micrometer dial gauge shall be used for the purpose of this test.

B-2. Set the 'V' blocks on the surface plate. Take a bottom shaft and mount it in the 'V' blocks. Set the micrometer dial gauge in such a way that its anvil head is held in contact with the surface of the bottom shaft. Adjust its pointer at zero position. Rotate the shaft once. Observe the maximum deflection of the pointer of the micrometer dial gauge on both sides of the zero position. Add the two maximum values and divide the sum by two.

B-3. Repeat the test at 4 more places along the length of the bottom shaft.

B-4. Report the bottom shaft to be in conformity with the requirements of 4.2, if none of the values observed in A-2 and A-3 exceeds 0.025 mm.

INDIAN STANDARDS

ON

COTTON WEAVING MACHINERY COMPONENTS

IS:

835-1978	Bottom shaft for cotton looms (<i>first revision</i>)
2531-1963	Crank shaft for plain calico cotton looms
2929-1964	Bushes for bottom shaft, rocking shaft and crank shaft used on plain calico looms
3165-1965	Weaver's beams for use in plain calico looms
3166-1965	Working widths and reed spaces of plain calico looms
3199-1965	Definition of side (left or right) of weaving preparatory machines and weaving looms
3627-1966	Cloth rollers for plain cotton looms
3683-1973	Drop wires for warp stop motions (<i>first revision</i>)
3789-1966	Bare cloth take-up rollers for plain cotton looms
4438-1967	Perforated strips for take-up rollers
6254-1971	Side weft forks and grates for non-automatic looms
7043-1975	Loom (fly) spindles
8137-1976	Springs for plain calico looms
8138-1976	Picking nose, boss and shell for looms
8139-1976	Picking cone and bolt for looms
8567-1977	Glossary of terms relating to cone and cheese winders
8568-1977	Glossary of terms relating to pirn winders
8875-1978	Shedding tappets for plain calico looms

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